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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/786,820	02/25/2004	Makoto Koumo	F-8139	5119

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EXAMINER	
DEL SOLE, JOSEPH S	

ART UNIT	PAPER NUMBER
1722	

DATE MAILED: 12/21/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/786,820	KOUMO ET AL.	
	Examiner	Art Unit	
	Joseph S. Del Sole	1722	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 1-3 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 1-3 is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on 25 February 2004 is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date 6/1/04.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Drawings

1. New corrected drawings in compliance with 37 CFR 1.121(d) are required in this application because **a)** the lines, numbers and letters are not uniform, clean and well defined (of a generally poor quality) in each of the 4 figures of 2/25/04 (37 CFR 1.84(l)). Applicant is advised to employ the services of a competent patent draftsperson outside the Office, as the U.S. Patent and Trademark Office no longer prepares new drawings. The corrected drawings are required in reply to the Office action to avoid abandonment of the application. The requirement for corrected drawings will not be held in abeyance.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by JP2001-30338.

JP2001-30338 teaches a control system for controlling extrudate (Fig 1) having a feed portion for feeding material (the examiner notes that the limitation "already removed of foreign substances or particles in the previous step" is a process limitation depending on the particular material used and not further limiting of the apparatus); an extruder (Fig 1, #1) for kneading the fed material and feeding forward the kneaded material; and a gear pump (Fig 1, #5)for delivering the material to a continuously

extruding forming nozzle (the Examiner notes that the limitation "to be used for building a tire" is a process limitation that does not further limit the apparatus); the control system having a pressure sensor for sensing a pressure in the gear pump (Fig 1, #12); a pressure comparator for comparing a sensed pressure and a set value and a motor controller for controlling the number of revolutions of a motor based on a comparison result given by the pressure comparator, the motor being operative to drive a screw of the extruder (see abstract).

4. Claims 1 and 2 are rejected under 35 U.S.C. 102(b) as being anticipated Ogawa et al (2002/0089077).

Ogawa et al teach a control system for controlling extrudate (Figs 3 and 6) having a feed portion for feeding material (the examiner notes that the limitation "already removed of foreign substances or particles in the previous step" is a process limitation depending on the particular material used and not further limiting of the apparatus); an extruder (Figs 3 and 6, #2) for kneading the fed material and feeding forward the kneaded material; and a gear pump (Figs 3 and 6, # 3) for delivering the material to a continuously extruding forming nozzle (the Examiner notes that the limitation "to be used for building a tire" is a process limitation that does not further limit the apparatus); the control system having a pressure sensor for sensing a pressure in the gear pump (Figs 3 and 6, #35); a pressure comparator for comparing a sensed pressure and a set value and a motor controller for controlling the number of revolutions of a motor based on a comparison result given by the pressure comparator, the motor being operative to drive a screw of the extruder (page 4, paragraph [0041]); a

temperature sensor (Figs 3 and 6, #s 12, 16 and 31) for sensing a temperature in the gear pump; temperature comparator for comparing a sensed temperature with a set value (Page 3, paragraph [0037]); temperature controller for controlling the temperature in the gear pump based on a comparison result given by the temperature comparator (Page 3, paragraph [0037]).

5. Claims 1 and 2 are rejected under 35 U.S.C. 102(b) as being anticipated Allen et al (5,061,170).

Allen et al teach a control system for controlling extrudate (Fig 1) having a feed portion for feeding material (the examiner notes that the limitation "already removed of foreign substances or particles in the previous step" is a process limitation depending on the particular material used and not further limiting of the apparatus); an extruder (Fig 1, #14) for kneading the fed material and feeding forward the kneaded material; and a gear pump (Fig 1, #16) for delivering the material to a continuously extruding forming nozzle (the Examiner notes that the limitation "to be used for building a tire" is a process limitation that does not further limit the apparatus); the control system having a pressure sensor for sensing a pressure in the gear pump (col 7, lines 38-40); a pressure comparator for comparing a sensed pressure and a set value and a motor controller for controlling the number of revolutions of a motor based on a comparison result given by the pressure comparator, the motor being operative to drive a screw of the extruder (col 7, line 40); a temperature sensor (col 7, lines 38040) for sensing a temperature in the gear pump; temperature comparator for comparing a sensed temperature with a set value (col 7, line 39); temperature controller for controlling the temperature in the gear

pump based on a comparison result given by the temperature comparator (col 7, line 39).

6. Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated Gohlisch et al (5,378,415).

Gohlisch et al teach a control system for controlling extrudate (Fig 1) having a feed portion for feeding material (the examiner notes that the limitation "already removed of foreign substances or particles in the previous step" is a process limitation depending on the particular material used and not further limiting of the apparatus); an extruder (Fig 2, #s 3 and 11) for kneading the fed material and feeding forward the kneaded material; and a gear pump (Fig 2, #6) for delivering the material to a continuously extruding forming nozzle (the Examiner notes that the limitation "to be used for building a tire" is a process limitation that does not further limit the apparatus); the control system having a pressure sensor for sensing a pressure in the gear pump (col 3, line 2); a pressure comparator for comparing a sensed pressure and a set value and a motor controller for controlling the number of revolutions of a motor based on a comparison result given by the pressure comparator, the motor being operative to drive a screw of the extruder (col 3, lines 15-16).

7. Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated Takubo et al (4,863,653).

Takubo et al teach a control system for controlling extrudate (Fig 5) having a feed portion for feeding material (the examiner notes that the limitation "already removed of foreign substances or particles in the previous step" is a process limitation depending

on the particular material used and not further limiting of the apparatus); an extruder (Fig 5, #s 3 and 5) for kneading the fed material and feeding forward the kneaded material; and a gear pump (Fig 5, #s 10 and 23) for delivering the material to a continuously extruding forming nozzle (the Examiner notes that the limitation "to be used for building a tire" is a process limitation that does not further limit the apparatus); the control system having a pressure sensor for sensing a pressure in the gear pump (Fig 5, P3 and P2); a pressure comparator for comparing a sensed pressure and a set value and a motor controller for controlling the number of revolutions of a motor based on a comparison result given by the pressure comparator, the motor being operative to drive a screw of the extruder (col 7, line 58 - col 8, line 8).

8. Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated Harris (4,721,589).

Harris teaches a control system for controlling extrudate (Fig 1) having a feed portion for feeding material (the examiner notes that the limitation "already removed of foreign substances or particles in the previous step" is a process limitation depending on the particular material used and not further limiting of the apparatus); an extruder (Fig 1, #s 11 and 12) for kneading the fed material and feeding forward the kneaded material; and a gear pump (Fig 1, #24) for delivering the material to a continuously extruding forming nozzle (the Examiner notes that the limitation "to be used for building a tire" is a process limitation that does not further limit the apparatus); the control system having a pressure sensor for sensing a pressure in the gear pump (Fig 1, #36); a pressure comparator for comparing a sensed pressure and a set value and a motor

controller for controlling the number of revolutions of a motor based on a comparison result given by the pressure comparator, the motor being operative to drive a screw of the extruder (col 7, lines 4-27).

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

10. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

11. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

12. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over any of JP2001-30338, Ogawa et al (2002/0089077), Allen et al (5,061,170), Gohlisch et al (5,378,415), Takubo et al (4,863,653) or Harris (4,721,589) in view of either of Shiraki et al (6,007,760) and Shiraki et al (4,938,908).

JP2001-30338, Ogawa et al, Allen et al, Gohlisch et al, Takubo et al and Harris teach the apparatus as discussed above.

Each of JP2001-30338, Ogawa et al, Allen et al, Gohlisch et al, Takubo et al and Harris fail to teach the specifically claimed L/D ratio.

Shiraki et al ('760) and Shiraki et al ('908) each teach an L/D ratio of 5 for the purpose of transporting resin have poor melt flowability ('908, col 4, lines 3-11) and for the purpose of producing inflation film ('760, col 2, lines 51-61).

It would have been obvious to one having ordinary skill in the art at the time of the Applicant's invention to have modified the screws of any of JP2001-30338, Ogawa et al, Allen et al, Gohlisch et al, Takubo et al and Harris with a screw having an L/D as taught by Shiraki et al ('760) or Shiraki et al ('908) because such a ratio is well known in the art at being capable of transporting resin of potentially poor melt flowability and/or because it assists the production of inflation film.

Correspondence

Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Joseph S. Del Sole whose telephone number is (571) 272-1130. The examiner can normally be reached on Monday through Friday from 8:30 A.M. to 5:00 P.M.

If attempts to reach the Examiner by telephone are unsuccessful, Mr. Duane Smith can be reached at (571) 272-1166. The official fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306 for both non-after finals and for after finals.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from the either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on the access to the Private PAIR system, contact the Electronic Business Center (EBC) at 886-217-9197 (toll-free).

Joseph S. Del Sole
December 16, 2005